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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/688,461

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James W. Meyer

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EXAMINER

YU, JAE UN

ART UNIT

PAPER NUMBER

2185

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/688,461	<b>Applicant(s)</b> MEYER ET AL.	
	<b>Examiner</b> JAE U. YU	<b>Art Unit</b> 2185	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6-12, 15, 18-20, 24-26, 30-36, 40-42 and 46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3, 6-12, 15, 24-26, 30-36, 40 and 41 is/are allowed.
- 6) ☒ Claim(s) 18, 42 and 46 is/are rejected.
- 7) ☒ Claim(s) 19 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

The examiner acknowledges the applicant's submission of a RCE dated 5/12/2009.

#### ***Response to Amendment***

Regarding the applicant's amendment, the examiner directs the applicant's attention to the following new ground(s) of rejection.

#### ***Claim Objections***

**Claims 21-23, 27-29 and 37-39** are cancelled. However, some of the previous claim limitations are still shown. The examiner requests appropriate corrections.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 18, 42 and 46** are rejected under 35 U.S.C. 103(a) as being unpatentable over Petersen (WO 95/06285) in view of Soussin et al. (US 2002/0107929) and Lo et al. (US 7,404,058).

2. As per **independent claim 18**, the claim recites an apparatus similar in scope as claim 42 does. The examiner directs the applicant's attention to claim 42 rejection below.

3. As per **independent claim 42**, Petersen discloses; "arranging first source data within a first section of a data block structure [**Data "22, 21", Line 18, Page 11**], wherein the data block structure includes fixed number of contiguous, configurable bits [**"01 (1)", Table 1, Page 11**], the data block structure including a fixed number of lanes [**01 (3) – 01 (0), Table 1, Page 11**], each lane includes a same number of bits [**1 byte per each lane from 01(0) through 01 (n), Paragraph 1, Page 9**], the first section of the data block structure including a first set of the fixed number of lanes [**01 (3) and 01 (2), Line 18, Page 11**], and the second section of the data block structure including a second set of fixed number of lanes [**01 (1) and 01 (0), Line 18, Page 11**]; receiving a request to send second source data [**Outputting data "24, 23", Line 18, Page 11**] over a communication bus [**Bus 16, Figure 7**]; identifying a location of a breakpoint in the first source data [**"01 (1), Table 1, Page 11**]; arranging at least a portion of the second source data within a second section of the data block structure after the breakpoint [**Arranging "24, 23" after "01 (1)", Line 18, Page 11**], wherein the second section is contiguous and abuts an end of the first section [**Data "24, 23" contiguous with "22", Line 18, Page 11**]; and sending the first source and the at least a portion of the second source data over the communications bus [**Outputting the merged data over the bus**]

**16 (Figure 7), Line 18, Page 11]** during a data block transmission period  
**[Transmission clock cycles, Table 1, Page 11]"**.

Petersen does not disclose expressly, "a header" included in each data.

**Soussin et al. disclose, "a header" for a data in paragraph 61.**

Petersen and Soussin et al. are analogous art because they are from the same filed of endeavor of data transferring.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Petersen by including "a header" for a data as taught by Soussin et al. in paragraph 61.

The motivation for doing so would have been that "the (header) information can be extracted automatically by the messaging program of the destination computer" as expressly taught by Soussin et al. in paragraph 61.

Petersen and Soussin do not disclose expressly a lane identifier.

**Lo et al. disclose a "virtual lane identifier" in column 4, lines 26-33.**

Petersen, Soussin and Lo et al. are analogous art because they are from the same field of endeavor of memory access control.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Petersen and Soussin by including the "virtual lane identifier" as taught by Lo et al. in column 4, lines 26-33.

The motivation for doing so would have been "to ensure that the packet truly belongs to the indicated queue pair" as expressly taught by Lo et al. in column 4, lines 26-33.

4. As per **claim 46**, Lo et al. disclose a software-implemented embodiment in column 2, lines 42-60.

### ***Conclusion***

A. **Subject Matter Considered Allowable**

**Claims 1-3, 6-12, 15, 24-26, 30-36, 40 and 41** are allowable.

The primary reasons for allowance of **claim 1** in the instant application is the combination with the inclusion in these claims that “**means for receiving downstream data from a second memory module over the communication bus...means for assembling the downstream data and the local data into the data block**”. The prior art of record neither anticipates nor renders obvious the above recited combination.

**Claims 2, 3 and 6** are allowable due to their dependency on claim 1.

The primary reasons for allowance of **claims 7 and 31** in the instant application is the combination with the inclusion in these claims that “**means for receiving the downstream data from a second hub...means for assembling the downstream data and the local data into the data block**”. The prior art of record neither anticipates nor renders obvious the above recited combination. **Claims 8-12 and 32-35** are allowable due to their dependency on claims 7 and 31.

The primary reasons for allowance of **claim 15** in the instant application is the combination with the inclusion in these claims that “**means for generating a second access request to send the downstream data over the communication bus;**

**means for sending the data within the data block over the communication bus during a data block transmission period;" and "allocating one or more first contiguous lanes within a first section of a data block to at least some of the local data...positioning a header between the first section and the second section".**

The prior art of record neither anticipates nor renders obvious the above recited combination.

The primary reasons for allowance of **claim 24** in the instant application is the combination with the inclusion in these claims that **"wherein the data block structure includes a fixed number of lanes...arranging a remainder portion of the first source data within a first section of the data block structure during a second processing period, wherein the first section includes a first set of contiguous bits"**. The prior art of record neither anticipates nor renders obvious the above recited combination. **Claims 25, 26 and 30** are allowable due to their dependency on claim 24.

The primary reasons for allowance of **claim 36** in the instant application is the combination with the inclusion in these claims that **"the data block structure including a fixed number of lanes...determining that second source of data from a second source is available to be sent over the communication bus, wherein the second source data includes a second header portion" and "receiving the indicating includes receiving a lane identifier that corresponds with one of a last lane of the first section and a first lane of the second section"**. The prior art of record neither anticipates nor renders obvious the above recited combination. **Claims 40 and 41** are allowable due to their dependency on claim 36.

**Claims 19 and 20** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The primary reasons for allowance of **claim 19** in the instant application is the combination with the inclusion in these claims that “**the means for receiving...means for receiving local data from one or more local memory storage units**”. The prior art of record neither anticipates nor renders obvious the above recited combination.

The primary reasons for allowance of **claim 20** in the instant application is the combination with the inclusion in these claims that “**arranging a first portion...wherein the first section includes a first set of contiguous bits**”. The prior art of record neither anticipates nor renders obvious the above recited combination.

As allowable subject matter has been indicated, applicant's response must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 C.F.R. § 1.111(b) and § 707.07(a) of the MPEP.

B. Claims Rejected in the Application

Claims 18, 42 and 46 have received a first action on the merits and are subject of a first action non-final.

C. Direction of Future Remarks



Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jae Un Yu who is normally available from 9:00 A.M. to 5:30 P.M. Monday thru Friday and can be reached at the following telephone number: (571) 272-1133.

If attempts to reach the above noted examiner by telephone are unsuccessful, the Examiner's supervisor, Sanjiv Shah, can be reached at the following telephone number: (571) 272-4098.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jae U Yu/

Examiner, Art Unit 2185

8/2/2009

/Hong Kim/

Primary Examiner, Art Unit 2185